MERCURY

Also known as: Quicksilver, Liquid Silver
Chemical reference number (CAS): 7439-97-6

WHAT IS MERCURY?

Mercury is a heavy, silvery-white metal element. It can exist as a liquid at room temperature or as a solid crystal salt. The liquid metal form gives off invisible, odorless, toxic vapors. Mercury can also be found in organic (with carbon) compounds. Commonly, metallic mercury can be found in thermometers, barometers, electrical switches, thermostats and in dental fillings.

When mercury is released from industries into the air, it can travel long distances and be deposited on soil and in lakes. In lakes, small organisms change the mercury to a form of organic mercury (methylmercury) that builds up in the bodies of fish. Some lakes in Wisconsin have health advisories that recommend against eating too much of certain types of fish containing high levels of methylmercury.

Organic mercury is the most poisonous form. It is used as a fungicide and preservative for seeds, wood products, and paper products. In homes, organic mercury can be found in latex paints, and metallic mercury is sometimes used in religious rituals.

HOW ARE PEOPLE EXPOSED TO MERCURY?

Breathing: People can be exposed by breathing mercury vapors. This type of exposure can happen in the workplace, or in homes where mercury is spilled. People who use exterior latex paints that contain mercury in unventilated areas may be exposed and could become seriously ill.

Drinking/Eating: People can be exposed to mercury by eating fish or shellfish caught in contaminated waters. Some dental fillings contain mercury and blood levels may be elevated for a short time after teeth are filled. Mercury can enter the body when contaminated water is used for drinking or for preparing food.

Touching: People who work with exterior latex-paints containing mercury can absorb mercury through their skin. If a water supply is contaminated, people can absorb mercury as they bathe or use the water for other purposes.

DO STANDARDS EXIST FOR REGULATING MERCURY?

Water: The state and federal drinking water standards are both set at 2 parts per billion (ppb) of mercury. We suggest you stop drinking water containing more than 2 ppb of mercury. If levels of mercury are very high in your water, you may need to avoid washing, bathing, or using the water for other purposes. Contact your local public health agency for more information specific to your situation.

Air: No standards exist for the amount of mercury allowed in the air of homes. We use a formula to convert workplace limits to suggested home limits. Based on the formula, we recommend levels of mercury vapor be no higher than 2 ppb.

The Wisconsin Department of Natural Resources regulates the amount of mercury that can be released by industries.

WILL EXPOSURE TO MERCURY RESULT IN HARMFUL HEALTH EFFECTS?

Metallic liquid mercury generally does not absorb very well when it swallowed. Breathing its vapors is very dangerous. When metallic mercury is touched it can slowly pass through the skin.

The following health effects can happen immediately or shortly after exposure to high levels of mercury:

- Neurological effects, confusion, hand tremors
- Chills
- Chest tightness, bronchitis, pneumonia
- Abdominal pain, nausea, vomiting, and loss of appetite
- Bleeding gums
- Leg pains and burning sensation in feet
- Lung and kidney damage
- Skin rashes

Children and infants can develop a specific allergic reaction to mercury.

The following health effects can occur after several years of exposure to mercury (more than 10 ppb in air):

Cancer: There is no evidence that mercury causes cancer.
Reproductive Effects: Symptoms can include menstrual problems, possible miscarriages and damage to unborn babies.
Organ Systems: People's nervous systems and kidneys are very sensitive to mercury and are easily damaged. Symptoms of damage include blood in urine, shaking, burning pain in legs and feet, sleep disturbance, personality changes, irritability and memory loss.

In general, chemicals affect the same organ systems in all people who are exposed. A person's reaction depends on several things, including individual health, previous exposure to chemicals, and personal habits such as smoking or drinking. It's also important to consider the length of exposure to the chemical; the amount of chemical exposure; and whether the chemical was inhaled, touched, or eaten.

CAN A MEDICAL TEST DETERMINE EXPOSURE TO MERCURY?

Blood, urine, hair and breast milk can all be tested for mercury. Normal levels of mercury in urine can vary, but are generally less than 15 micrograms per liter. Doctors can do additional medical tests to check kidney and nervous system functions.

Seek medical advice if you have any symptoms that you think may be related to chemical exposure.

This fact sheet summarizes information about this chemical and is not a complete listing of all possible effects. It does not refer to work exposure or emergency situations.

FOR MORE INFORMATION

- Poison Control Center, 800-815-8855
- Your local public health agency
- Division of Public Health, BEH, 1 West Wilson Street, Rm. 150, Madison, WI 53701-2659, (608) 266-1120 or Internet: http://www.dhfs.state.wi.us/eh

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